

REMARKS

As stated above, Applicants appreciate the Examiner's thorough examination of the subject application and request reexamination and reconsideration of the subject application in view of the preceding amendments and the following remarks. Applicants have carefully reviewed and considered the Office Action mailed on 21 September 2005, and the references cited therewith.

Claims 10-17 are canceled; as a result, claims 1-9 and 18-27 are now presently pending in this application.

Affirmation of Claim Group Election

The Examiner restricts Applicants to one of the following inventions under 35 USC § 121:

Group I: Claims 1-9 and 18-27, drawn to a system comprising a communication adapter coupled to a transmission medium to transmit and receive data according to a network protocol, classified in class 709, subclass 202.

Group II: Claims 10-17, drawn to a method of discovering storage resources of one or more storage nodes coupled to a data bus, classified in class 707, subclass 10.

As provisionally elected by Applicants representative, Edmund P. Pfleger, on September 13, 2005, Applicant elects to prosecute the invention of Group I, claims 1-9 and 18-27.

The claims of the non-elected invention, claims 10-17, are hereby canceled. However, Applicants reserve the right to later file continuations or divisions applications having claims directed to the non-elected inventions.

Claim Rejections under 35 USC § 102

The Examiner rejects 1-6, 9, 18, 19, and 21-26 under 35 USC § 102(e) as being anticipated by Cayton et al. (U.S. Patent Application Publication No. 2003/0043794; hereinafter Cayton).

The Examiner appears to point to Cayton as teaching a system and a storage node that includes a communication adapter coupled to a transmission medium to transmit and receive data

according to a network protocol (paragraph 0042). The Examiner also appears to point to Cayton as teaching a data bus coupled to one or more storage nodes, each storage node comprising storage resources and logic to transmit data to or receive data from a storage medium according to an input/output format (paragraphs [0028-0029] and [0044]). Furthermore, the Examiner appears to point to Cayton as teaching a processing system to host a common transport agent, the common transport agent comprising a first interface comprising one or more method interfaces to communicate with each storage node independently of the input/output format of the storage node (paragraphs [0031-0032], [0042], and [0046]). However, Applicants respectfully disagree with the Examiner's characterization of the Cayton reference.

Reciting Applicants' independent claim 1:

A system comprising:

a communication adapter coupled to a transmission medium to transmit and receive data according to a network protocol;

a data bus coupled to one or more storage nodes, each storage node comprising storage resources and logic to transmit data to or receive data from a storage medium according to an input/output format; and

a processing system to host a common transport agent, the common transport agent comprising a first interface comprising one or more method interfaces to communicate with each storage node independently of the input/output format of the storage node. (emphasis added)

Thereby, Applicants' independent claim 1 includes a common transport agent that includes one or more method interfaces to communicate with storage nodes independently of the nodes input/output format. Reciting from paragraph 0031 of the subject application, a common transport agent is described as:

"A 'common transport agent' (CTA) as referred to herein relates to a process hosted on a processing system to communicate with storage nodes and clients requesting storage services from the storage nodes. A CTA may comprise an interface with storage nodes comprising objects which are independent of a particular I/O format used by the storage nodes for transmitting data to or receiving data from a storage medium in response to requests for storage services. However

this is merely an example of a CTA and embodiments of the present invention are not limited in this respect."

Furthermore, the subject application describes a method interface in paragraph 0021 as:

"A 'method interface' as referred to herein relates to an interface through which related software components or processes may communicate according to a pre-defined syntax. For example, a software component may define a method interface to provide one or more objects in a procedure or function call. Also, an application programming interface (API) may define one or more method interfaces to facilitate communication between processes. However, these are merely examples of a method interface and embodiments of the present invention are not limited in this respect."

Thus, a common transport agent may provide a common communication interface with a group of storage nodes. The common communication interface may define one or more method interfaces that are independent of any particular I/O format used for storing data in or retrieving data from a storage medium associated with the storage node.

In contrast, Cayton describes a driver module that implements a particular set of protocols for transferring data over a particular type of data channel. In particular, Cayton describes implementing Next Generation I/O (NGIO) /InfiniBand™ protocols for performing data transfers over NGIO/InfiniBand™ channels. Citing from paragraph 0042 of Cayton, as cited by the Examiner:

"The host-fabric adapter (HCA) driver module may consist of three functional layers: a HCA services layer (HSL), a HCA abstraction layer (HCAAL), and a HCA device-specific driver (HDSD). For instance, inherent to all channel drivers 530A-530N may be a Channel Access Layer (CAL) including a HCA Service Layer (HSL) for providing a set of common services 532A-532N, including fabric services, connection services, and HCA services required by the channel drivers 530A-530N to instantiate and use NGIO/InfiniBand™ protocols for performing data transfers over NGIO/InfiniBand™ channels. The fabric bus driver 540 may correspond to the HCA Abstraction Layer (HCAAL) for managing all of the device-specific drivers, controlling shared resources common to all HCAs in a host system 130 and resources specific to each HCA in a host system 130, distributing event information to the HSL and controlling access to specific device functions. Likewise, one or more fabric adapter device-specific drivers 550A-550N may correspond to HCA device-specific drivers (for all type of brand X devices and all type of brand Y devices) for providing an abstract interface to all of the initialization, configuration and control interfaces of

one or more HCAs. Multiple HCA device-specific drivers may be present when there are HCAs of different brands of devices in a host system 130.” (emphasis added)

Thus, Cayton describes using protocols for transferring data over a particular type of data channel but does not disclose or suggest communicating with a group of storage nodes via a transport agent wherein communication with each storage node is performed independently of the input/output format of the storage node, as required by independent claim 1.

Similar to independent claim 1, independent claim 18 in the subject application includes a similar limitation of a transport agent.

Thus, since each and every limitation of Applicants’ independent claims 1 and 18 are not disclosed or suggested in Cayton, Applicants respectfully submit that Cayton does not anticipate Applicants’ invention of independent claims 1 and 18. The remaining claims of this rejection depend directly or indirectly upon Applicants’ invention of independent claims 1 and 18, and thus must be read as incorporating the limitations of the respective independent claims. (35 USC §112, 4th paragraph). Since nowhere does Cayton disclose or suggest these limitations of independent claims 1 and 18, it is respectfully submitted that the Examiner’s rejection of claims 2-6, 9, 19 and 21-26 as being anticipated by Cayton is in error, and should be withdrawn.

Claim Rejections under 35 USC § 103

The Examiner rejects claims 7, 8, 20, and 27 under 35 USC § 103(a) as being unpatentable over Cayton in view of Chou et al. (U.S. Patent Application Publication No. 2002/0087663; hereinafter Chou).

Chou is not understood to remedy the foregoing deficiencies of Cayton. In particular, Chou does not disclose or suggest “a common transport agent comprising a first interface comprising one or more method interfaces to communicate with each storage node independently of the input/output format of the storage node” as required by independent claims 1.

In contrast, citing from Chou’s abstract:

“A system for generating a requisition for selectable items includes a client computer system and a server computer system interconnected via a network. The client computer system is configured to allow a plurality of users to access the server computer system, and the server computer system is configured to associate one of a plurality of work sites with each of the users. The server computer system is also configured to identify items which may be requisitioned by a

user associated with the associated work site, and items which may not be requisitioned by a user associated with the associated work site, and to receive and process a request for one or more selected items. The server computer system further verifies that each requested item is an item that may be requisitioned by a user associated with the associated work site and generates a requisition for the verified items. In a further aspect, a method of generating a requisition is also provided."

Thus, Chou appears to describe a system for producing a requisition of selectable items. Chou's system seems to include a client computer system that allows users to access a server computer system. The server computer system identifies, processes, and verifies a request for items which may be requisitioned by a user associated with a particular work site. By providing this functionality, users such as corporate users may set up worksite requisitions well in advance of the work being performed.

For at least the reasons discussed above, Applicants respectfully assert that independent claims 1 and 18 are patentable. As claims 7, 8, 20 and 27 respectfully depend upon independent claims 1 and 18, Applicants respectfully assert that claims 7, 8, 20 and 27 are patentable over the combination of Cayton and Chou, and that the rejection should be withdrawn.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (603-668-6560) to facilitate prosecution of this application.

Respectfully submitted,

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By their Representatives,

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By


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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O.Box 1450, Alexandria, VA 22313-1450, on this 21 day of December, 2005.

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